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**R-009-208.24**

**REVISION ONE (1) TO THE CONDITIONALLY  
APPROVED PART 2 AND PART 3 WORK PLAN  
FOR THE SOUTH GROUNDWATER  
CONTAMINATION PLUME REMOVAL ACTION**

**02/03/92**

**DOE-812-92  
DOE-FO/EPA  
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LETTER  
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**Department of Energy**  
**Fernaïd Environmental Management Project**  
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FEB 23 1992  
DOE-812-92

Mr. James A. Saric, Remedial Project Director  
U.S. Environmental Protection Agency  
Region V - 5HR-12  
230 South Dearborn Street  
Chicago, Illinois 60604

Mr. Graham E. Mitchell, DOE Coordinator  
Ohio Environmental Protection Agency  
40 South Main Street  
Dayton, Ohio 45402-2086

Dear Mr. Saric and Mr. Mitchell:

**REVISION ONE (1) TO THE CONDITIONALLY APPROVED PART 2 AND PART 3 WORK PLAN FOR  
THE SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION**

- References: 1) Letter, C. A. McCord to J. R. Craig, "Removal #3 Work Plan Parts II and III," dated April 24, 1991
- 2) Letter, G. E. Mitchell to J. R. Craig, "Conditional Approval South Plume Removal Action Work Plan," dated April 12, 1991
- 3) Letter, DOE-044-92, J. R. Craig to J. A. Saric and G. E. Mitchell,, "Request for Schedule Extension on Parts 1, 2, and 3 of the South Groundwater Contamination Plume Removal Action," dated November 20, 1991
- 4) Letter, J. A. Saric to J. R. Craig, "U.S. DOE Request for Extension on Parts 1, 2, and 3 of the South Plume Removal Action," dated December 6, 1991
- 5) Letter, G. E. Mitchell to J. R. Craig, "South Plume Schedule Extensions," dated December 9, 1991

This letter transmits the responses to comments from the U.S. EPA and the Ohio EPA (Enclosure 1) and the Revision 1 to the Work Plan for Part 2 and Part 3 of the South Groundwater Contamination Plume Removal Action (Enclosure 2).

Revision 1 to the Part 2 and Part 3 Work Plan reflects changes to the project that have developed since the April, 1991 approval of the document. The U.S. EPA and the Ohio EPA have conditionally approved the Work Plan (References 1 and 2), pending responses to their respective comments. This revision incorporates those responses. Revision 1 of the Work Plan includes revised project completion dates as requested in Reference 3. The revised project completion dates were approved by the U.S. EPA and Ohio EPA in References 4 and 5, respectively.

The modifications to the Work Plan are shown highlighted and the text to be deleted is shown struck out to facilitate your review. The highlighting and struck out text will be removed upon U.S. EPA and Ohio EPA approval of the revised Work Plan.

If you or your staff have any questions, please contact me at FTS 774-6159 or (513) 738-6159, or Carlos J. Fermainitt at FTS 774-6157 or (513) 738-6157.

Sincerely,

*for Johnny Rising*  
Jack R. Craig  
Fernald Remedial Action  
Project Manager

FO:Fermainitt

Enclosures: As Stated

cc w/encs.:

J. J. Fiore, EM-42, TREV  
K. A. Hayes, EM-424, TREV  
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cc w/o encs.:

D. J. Brettschneider, WEMCO

RESPONSES TO OHIO EPA'S COMMENTS DATED APRIL 12, 1991  
SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION  
PART 2 - PUMPING AND DISCHARGE SYSTEM &  
PART 3 - INTERIM ADVANCED WASTEWATER TREATMENT SYSTEM  
WORK PLAN

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1. Comment:

Page 11: Will the 8000 GPM new outfall line capacity be reduced during high river conditions? If so, how much will it be reduced?

Response:

The new outfall pipeline from proposed Manhole 176B to the Great Miami River has been designed to conduct effluent flow at 8000 gallons per minute (gpm) under free flow, except during high river conditions. At high river conditions, the outlet will become submerge resulting in a portion of the outfall pipeline to experience surcharged conditions. However, because of the hydraulic design and the physical geometry of the pipeline slope, the surcharged condition will not extend upstream from the outlet beyond proposed Manhole 179B under a 100-year flooding condition for the Great Miami River. Therefore, the capacity of the pipeline to carry the 8000 gpm design flow will not be compromised. In addition, manholes from Manhole 177B to proposed Manhole 182B will be designed as pressure manholes and will have watertight and bolted manhole frames and lids to prevent the surcharged pipe from overflowing out of the manholes.

Action:

The Work Plan has been revised to reflect the response to this comment.

2. Comment:

In order to evaluate substantive compliance with ARAR's, Ohio EPA will need to review and comment on plans for the new final outfall line. When will these plans, and specifications be submitted?

Response:

Construction of the new outfall will be completed under two separate construction bid packages. Package 2A includes approximately 3680 feet of outfall pipeline from the groundwater discharge pipeline to, and including Manhole 182B. This package has recently been Certified For Construction (CFC) and the approved plans and specifications will be submitted to Ohio EPA and U.S. EPA for information. Package 2B includes the remaining portion of the outfall pipeline, approximately 500 feet, from Manhole 182B to its outlet at the Great Miami River and a protective cofferdam with riverbank riprap protection. Plans and specifications for this package will also be submitted when they become available.

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An explanation of the construction bid packages is included in the Work Plan.

3. Comment:

Section 5.2, Page 12; Discharge parameters such as iron, manganese, pH (6.5-9.0), dissolved oxygen (min. 5.0 mg/l) and total suspended solids will most likely have limits and not just be monitored. DOE was to check into the dissolved oxygen concentration in the South Plume Groundwater to see if meeting a 5.0 mg/l minimum would be a problem. Also, where is the oil and grease coming from in the South Plume and IAWWT.

Response:

The DOE has recognized that the addition of South Plume groundwater to the existing FEMP wastewater discharge will impact the dissolved oxygen (DO) concentration requirement as specified under the current FEMP's National Pollutant Discharge Elimination System (NPDES) permit. As a result, an aeration facility near Manhole 176 is planned to be designed and constructed. This aeration system will increase the South Plume DO so that when combined with existing FEMP wastewater discharge, the 5.0 mg/l DO requirement will be met.

Manganese will be added to the parameters to be monitored in the final FEMP discharge.

Indication of oil and grease from the South Plume and the IAWWT was a typographical error.

Action:

The Work Plan has been revised to include the aeration facility. Manganese has been added to the parameters to be monitored in the Work Plan. Monitoring for oil and grease in the South Plume and the IAWWT has been removed from the Work Plan.

4. Comment:

Section 5.2: Actual monitoring frequencies for outfalls 003, 607, and 608 will be determined during the NPDES Permit Modification Process.

Response:

The monitoring frequencies proposed are consistent with the existing NPDES monitoring. An application to modify the present FEMP NPDES permit will be completed and submitted for approval after the Ohio EPA has reviewed and approved the revised Work Plan. The application will include the modifications to the existing FEMP wastewater system as proposed in this

Work Plan. As demonstrated in the revised Proposed Interim Wastewater Flow Diagram, note that proposed outfall 608 has moved and that outfall 004 has been added for monitoring dissolved oxygen, iron, and manganese in the final FEMP effluent to the Great Miami River.

However, it is the DOE's intention to begin operation of the Part 3 Interim Advanced Wastewater Treatment (IAWWT) system (projected at July 31, 1992) without the permit modification. In the event that the permit modification is not approved by the time that Part 2 is operational (projected at January 31, 1993, at the latest), the DOE will proceed with the operation of the recovery well field to meet its CERCLA commitments with the U.S. EPA.

Action:

The DOE is presently compiling information, including the proposed monitoring points under this Work Plan, to submit to Ohio EPA for a modification to the FEMP NPDES permit. This modification to the NPDES permit will be submitted after approval of the monitoring points and parameters as proposed in this Work Plan by the Ohio EPA.

5. Comment:

Section 5.2, Page 13, 1st Paragraph: The removal of "alpha and beta radiation and" from the first sentence in this paragraph is inconsistent with Table 1. DOE should provide justification for the removal of alpha and beta radiation measurements from the work plan.

Response:

Alpha and beta radiation will be analyzed at the proposed NPDES monitoring points 607 and 003 and added to the parameters to be monitored at existing monitoring point 606, as indicated in Table 2.

Action:

"Alpha and beta radiation and" has been written back in.

6. Comment:

Section 5.2, Page 13, 1st Paragraph: DOE should consider limited measurements [of] total rads for monitoring points 607 and 608. A few sets of measurements for total rads will allow a look at the efficiency of the IAWWT at removing the radionuclides other than uranium from the wastewater.

Response

The DOE will monitor the daily composite sample for alpha and beta radiation in both the influent to (monitoring point 606) and effluent from (monitoring point 607) the IAWWT (SWRB) unit. In this way, removal efficiency of the IAWWT (SWRB) system for radionuclides other than uranium may be evaluated on a qualitative basis.

Action:

The Work Plan has been modified accordingly.

7. Comment:

Attachment II: Page numbers should be included for this Attachment.

Response:

The page numbers will be included.

Action:

Page numbers have been included. Note, Attachment II, "Soil and Rubble Sampling and Analysis Plan," has been redesignated as Attachment I.

8. Comment:

Attachment [I]: Section 3: This section of the [Sampling and Analysis Plan or SAP] fails to address any suspect areas associated with the new outfall line. The SAP in general fails to look at the work to be conducted while installing the new outfall line. Suspect areas must be associated with this installation since the old line is suspected of leaking and tie into this line is required. DOE must address potential contamination of soils associated with the new outfall portion of the removal action in this section of the SAP. DOE should incorporate data from the outfall line and manhole #180 investigations.

Response:

In the new section entitled "Pre-Excavation Field Screening & Soil Sampling and Analysis," the new outfall pipeline at the proposed diversion Manhole 176A to proposed Manhole 176B and at the outlet are being addressed as suspect areas. As with other suspect areas in this Removal Action, the intent of identifying these suspect areas is to identify possible contaminants that workers may be exposed during construction so that appropriate health and safety measures can be taken. This is accomplished by field screening. Soil analysis for contaminants will be triggered when field screening criteria as specified are exceeded. In addition, specific locations have been designated for soil sampling and analysis.

There is sufficient information to support that uranium contamination is not a concern for the remaining portion of the outfall pipeline and therefore non-suspect, including existing Manhole 180. Only field screening is applicable for this non-suspect as described in Attachment I.

The section entitled "Construction-Related Sampling" has been revised to include a plan for post-excavation soil management and and disposition.

Action:

Attachment I has been revised to include Manhole 176A to proposed Manhole 176B and the new outfall pipeline outlet as suspect areas.

9. Comment:

Attachment [I], Section 2, 1st Page, Next to Last Paragraph: A figure should be included detailing proposed sampling locations, extent of the suspect area, and the area to be excavated.

Response:

Agreed. A figure showing the proposed sampling locations has been included. A detailed description of the suspect areas is given in Attachment I. Excavation will be limited to within the easements for areas outside the FEMP property boundary. All excavations will be limited to areas necessary for pipeline, and appurtenance, installation.

Action:

A figure has been included. Attachment I has been modified accordingly.

10. Comment:

Attachment [I], Section 2, 1st page, Next to last Paragraph: VOCs readily volatilize from surface soil and most likely would not be found in the first six inches in soil. Since greater than six inches of soil will be removed, initial characterization VOC samples should be collected at the 18 to 24 inch range. DOE should remove soil at six inch increments to a depth of 24 inches. Each increment should be field scanned with an HNu. VOC samples should be collected from the increment with the highest HNu reading. If no increment has an above background HNu reading, VOC samples should be collected from the bottom six inches.

Response:

In the new section entitled, "Pre-Excavation Field Screening & Soil Sampling and Analysis Plan," soil samples for field screening will be collected to a depth of six feet (the approximate depth to the bottom of pipeline trench excavation) at one foot intervals. Field screening will be conducted for volatile organic compounds (VOCs) and radiological contaminants. As discussed in response to Comment No. 8 and with the



exception of specific locations designated for soil sampling and analysis, only when field screening criteria is exceeded will a sample at a specific sample location be retained for analysis.

Action:

Attachment I has been revised accordingly.

11. Comment:

Attachment [I], Section 2, 2nd Page, 1st Paragraph: DOE should include, in the SAP the laboratory quantitation limits being used to determine excavation requirements for non-naturally occurring HSLs.

Response:

Excavated soil materials will be returned to the excavation. Contaminated areas will be flagged and addressed under a separate response action. The laboratory quantification limits for non-naturally occurring HSLs will be addressed under the separate response action work plan.

Action:

Attachment I has been revised accordingly.

12. Comment:

Attachment [I], Section 2, 2nd Page, 2nd paragraph: DOE should use data from background sampling conducted under the RI/FS for naturally occurring HSLs. The article "Background Levels of Heavy Metals in Ohio Farm Solid" (T. Logan and R. Miller, Feb. 1983, Ohio State University OARDC Research Circular 275) should be used in determining background levels for heavy metals, if site specific background levels are not available. The use of a state study to determine background levels is more appropriate than the use of a national study, when specific sampling is not being conducted to determine true background.

Response:

This paragraph has been deleted from the attachment.

Action:

No change to the Attachment is needed

13. Comment:

Attachment [I], Section 2, 2nd Page, [5th] paragraph: The use of previous EP Toxicity data to determine leachability and containerization requirements is inappropriate since TCLP has been promulgated. Unless TCLP analysis is to be conducted, those soils exhibiting above background concentrations should be containerized until such time as their hazardous waste status can be determined.

Response:

This portion of the paragraph has been overstruck.

Action:

No change to the paragraph is required.

14. Comment:

Attachment [I], Section 3.2, 3rd Page, 3rd Paragraph: The first sentence of this paragraph is missing a word and should be edited. Depending on the location chosen for the transfer pump station, contaminated soil may be encountered as a result of local industrial activities. DOE may need to conduct some pre-excavation sampling in this location in order to characterize soils which are to be removed.

Response:

With the relocation of the Removal Action's recovery wells as described in the Work Plan, the transfer pump station has been eliminated from the project.

Action:

No change to Attachment I is required.

15. Comment:

The operation and maintenance manual for the South Plume Removal should be submitted to Ohio EPA for review and comment by September 1, 1991.

Response:

The draft Operations and Maintenance (O&M) manual has been sent to Ohio EPA and U.S. EPA for review and comment.

Action:

Presently, the O&M manual is being revised to address Ohio EPA's and U.S. EPA's comments received on the document. No change to the Work Plan is required.

[REDACTED]  
[REDACTED]  
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[REDACTED]

RESPONSES TO U.S. EPA'S COMMENTS DATED APRIL 24, 1991  
SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION  
PART 2 - PUMPING AND DISCHARGE SYSTEM &  
PART 3 - INTERIM ADVANCED WASTEWATER TREATMENT SYSTEM  
WORK PLAN

1. Comment:

All samples must be analyzed in accordance with the approved QAPjP.

Response:

The QAPjP is not an approved document at this present time. However, many of the concepts in the QAPjP are analagous to those in the QAPP. All samples will be analyzed in accordance with EPA approved methodologies (SW-846, etc.) by laboratories (approved by EPA prior to sample collection) capable of providing data equivalent to EPA Analytical Levels I-V.

Action:

No change to the Work Plan is required.

2. Comment:

U.S. DOE may propose revisions to the QAPP to include additional laboratories, along with the latest laboratory audit and routine quality control analyses results. Documentation that the laboratory is capable of providing data of a quality equivalent to that required in the Remedial Investigation QAPjP must be presented.

Response:

See the response to Comment No. 1.

Action:

See the action to Comment No. 1.